The place for 1900·0 is

$$\alpha = 15^h\ 28^m\ 28^s{\cdot}4$$
$$\delta = 40^\circ\ 49'\ 50''{\cdot}2$$

While the present results indicate the general character of the motion, it is obvious that the work of many years will be required to define the orbit with great accuracy; yet I have thought proper at this time to direct attention to the first fruit of what must be considered to be one of the most fortunate of Herschel's discoveries made more than sixty years ago.

Lowell Observatory, Flagstaff, Arizona:
1897 *October* 1.

List No. 4 for 1900·0 *of Nebulæ discovered at the Lowe Observatory, California.* By Lewis Swift.

No.	Date. 1897.	R.A. h m s	Dec. ° ′ ″	Descriptions.
1	Sept. 23	0 11 0	−39 52 20	eeeF, vL, eE, close f 55, f of 2. Note.
2	Oct. 3	0 54 30	−34 51 32	pB, vS, R, 2 st nf, and 2 np.
3	Sept. 29	1 5 0	−46 31 38	vF, S, R, no B ✶ near, vF one f.
4	29	1 53 4	−33 31 27	pB, vS, R, BM 10^m ✶ v close sp.
5	29	2 5 0	−33 25 0	vF, vS, eE, nearly 0°, F ✶ p.
6	29	2 59 28	−39 52 38	eF, pS, R, FD ✶ sf point to it.
7	26	3 31 0	−34 46 55	pB, S, eeeE, a straight hair-like line 90°. Note.
8	29	4 8 45	−33 7 51	eF, vS, R, BM, 10^m ✶ close s.
9	29	4 16 30	−31 41 42	eeF, pL, R.
10	Aug. 10	19 53 30	−38 47 38	vF, S, R, 8^m ✶ f, 90°, p of 2, same parallel.
11	10	19 54 0	−38 47 38	vF, S, R, 8^m ✶ f, f of 2.
12	July 8	20 0 0	−48 35 50	B, cE, vS, stellar, f of 2.
13	Sept. 23	20 10 59	−41 53 24	vF, cS, R, no B ✶ near.
14	16	20 24 25	−36 39 15	vF, cS, R, several pB st sf.
15	17	20 40 25	−38 50 35	eeF, pS, R.
16	15	21 1 31	−30 26 30	eeF, pS, R, F ✶ near f, 90°.
17	17	21 41 0	−35 21 58	vF, vS, R.
18	17	21 42 0	−35 27 0	vF, pL, R. Not 7130 or 7135; sp of 2.
19	17	21 43 30	−35 22 10	eeF, pL, R, 3 B st p = △ nf of 2.
20	27	21 49 46	−49 31 52	eeF, pS, R, in line with 2·9^m st sf, 7^m ✶ in field sf.
21	23	22 51 30	−43 59 27	pB, S, R, mbM.
22	Oct. 3	23 27 45	−45 35 40	vF, S, R, bet 2 st, 8^m ✶ sf and 7^m ✶ sp.
23	Sept. 23	23 39 25	−43 29 15	eF, eS, R, stellar.
24	25	23 42 40	−37 36 53	eeF, CS, R, in vacancy.
25	25	23 52 25	−37 34 52	pB, CS, eE, 1 star near sf.

Notes.

This list, the fourth issued from this observatory, bringing the total to 130, contains, as will be seen, only southern nebulæ. They are, with a few exceptions, very faint, though some are bright enough to come under Herschel's Class I., and the fact of their not having been previously found shows that the southern sky has not been so thoroughly searched over for nebulæ as the northern, and that portion of the southern within the reach of Sir William Herschel and Lord Rosse.

Note to No. 1 = G.C., 27 = N.G.C. 55, is with its associated companion a remarkable nebula. I am at a loss what to think of it, whether it is all one nebula, the preceding half vv bright, v large, exceedingly elongated, the following half ee faint, equally large, and still more elongated, or if there are not two nebulæ, one partly overlapping the other. If single, it is curved; if double, the components are inclined to each other. I am inclined to think there are two distinct nebulæ, one reason being that the brighter one ends sharply, which would hardly be the case if the brighter merged into the fainter. The brighter was discovered by Dunlop, but I doubt if he could have seen the fainter. The fact that Sir John Herschel does not mark it with a sign meaning a very remarkable or even a remarkable object—as he often has done—lends plausibility to the supposition that the fainter portion was not seen by him. As, however, it has been illustrated, a reference to the illustration would settle the matter at once.

No. 7. This in one respect is the most remarkable nebula I have ever seen. I doubt if the entire heavens afford a similar example. If the reader will cut off a short piece of fine bright brass wire and hold it up sidewise to the sky he will form by looking at it a very correct idea how it appeared to me. The line was certainly nebulous. It must be a thin nebulous disc seen exactly edgewise.

G. C. 383 does not exist, and must be struck out. Sir John Herschel makes 380 and 383 of equal brightness, and the places given would place both well within my field of 31′ in diameter, power 132. I made a long and thorough search for 383, and should have found it if there had it been three times fainter than 380, which is an easy object.

Occultation of the Pleiades, 1897 *July* 23.

By W. E. Plummer, M.A.

The following observations were made at Bidston Observatory, under decidedly unfavourable meteorological conditions. The sky was repeatedly covered with cloud, and a haze was at all times present which rendered some of the stars very faint when near the limb of the Moon, and also interfered with definition. No apparent projection of the stars on the Moon's disc was noticeable at either disappearance or re-appearance. The nomenclature is that of Bessel.

Star.	Phenomenon.	Observed Local Time. h m s	Star.	Phenomenon.	Observed Local Time. h m s
Electra	Disappearance	12 9 25·3	Alcyone	Disappearance	13 13 19·9
8	,,	12 44 14·5	Merope	Re-appearance	13 27 29·3
Merope	,,	12 44 53·0	9	,,	13 39 33·3
4*	,,	12 53 45·8	29	Disappearance	13 46 15·1
13	,,	12 58 49·0	Pleione	,,	14 4 52·8
15	,,	13 2 0·5	Alcyone	Re-appearance	14 7 29·5
18	,,	13 8 38·1	32	Disappearance	14 9 30·7
p	,,	13 9 23·5			

Liverpool Observatory:
1897 *November* 11.

* In the case of this star some doubt was entertained whether the star was really occulted or simply obscured by cloud at the time of closest approach. The path of the Moon seemed to indicate that it would be hidden, but suspicion was raised when seen later.

Equatorial Comparisons of Uranus with 41 Librœ, and a Probable Occultation of the Star by the Planet. By John Tebbutt.

On 1897 September 5 I commenced a series of comparisons of *Uranus* and 41 *Librœ* by means of the 8-inch equatorial and filar micrometer. On completing the first three nights' observations it appeared to me that the planet would, on the evening of September 8, either occult the star or approach extremely close to it. As absence from home would prevent my observation of this interesting appulse, I requested two prominent Members of the local branch of the British Astronomical Association to watch for the phenomenon. I have since heard from Mr. C. J. Merfield that he saw the planet within 5″ of the star at $7^h\ 20^m$, and concluded that it had been much closer at sunset. He afterwards found from the theoretical places in the *Nautical Almanac* that the star must have suffered occultation shortly before sunset, and the observed coordinates communicated in this paper will confirm this conclusion. The accompanying observations have been made under fairly good conditions, and many of them during twilight. The centre of the planet's disc was the point observed throughout.

The star's mean place for 1897·0 has been derived from the following catalogues:—Greenwich, 1840, 1850, 1880; Cape, 1850, 1885; Argelander-Oeltzen, 1850; Radcliffe, 1860, 1890; Washington, 1860, 3rd ed.; Brussels, 1865; Cordoba, 1875; and Melbourne, 1880. The reductions for mean place have been made by means of the annual precessions and secular variations of the Greenwich Catalogue, 1880, checked by those of the Radcliffe Catalogue, 1890, and the proper motion has been taken from the same two authorities. The resulting mean place, assigning equal weights to the authorities, is R.A.$=15^h\ 32^m\ 58^s{\cdot}70$, N.P.D.$=108°\ 57'\ 45''{\cdot}1$ The observations have been compared with the transit ephemeris on p. 279 of the *Nautical Almanac*, and the means of the resulting corrections, namely $-0^s{\cdot}35$, $-0''{\cdot}8$, agree closely with $-0^s{\cdot}32$, $-1''{\cdot}2$, the results derived by me from comparisons with α *Librœ* on 1894 October 5. See *R.A.S. Monthly Notices*, vol. lv. p. 83. In concluding this paper I would suggest the desirability of improving the Table of Phenomena in the *Nautical Almanac* by the more free insertion of conjunctions of planets with well-known stars, for results derived from micrometric measures at such opportunities are, I think, quite equal to those from ordinary meridian observations. I may add that *Neptune* will pass within micrometric distance of 114 *Tauri* at his opposition in December next.